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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,457	08/23/2001	Niranjan Damera-Venkata	10006301-1	9595

7590 04/21/2005  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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ALAVI, AMIR

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/935,457

Applicant(s)

DAMERA-VENKATA, NIRANJAN

Examiner

Amir Alavi

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **Response to Arguments**

- Applicant's arguments filed 14 December 2004 have been fully considered but they are not persuasive.
- Applicant argues in essence that the cited prior art do not operate at the level of pixel blocks.
- Examiner disagrees and indicates that the cited prior art reasonably address limitations of the claimed invention. Applicant is reminded that Examiner will interpret each claim in the broadest reasonable sense, as such, the claims and only the claims form the metes and bounds of the invention. In this regard, Examiner considers the cited prior art, namely, Brunk-USPN-6,694,041 B1, column 3, lines 56-65, to clearly address pixel blocks, as such, wherein a set of binary values, being indeed more than one and being a set constitutes blocks.

## **Claim Rejections - 35 USC § 102**

- The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- Claims 1,5-6,8-9,13-14,16-17 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Brunk (USPN 6,694,041 B1).

Regarding claim 1, Brunk discloses: detecting first type pixel blocks of an input image, each of said first type pixel blocks including a plurality of pixels, said first type pixel blocks being dependent on pixel values within said first type pixel blocks (Please note, column 3, lines 56-65. As indicated a modified error diffusion method that embeds a watermark comprising a set of binary values at specified dot locations in a

binary image, as such, wherein a set of binary values, being indeed more than one and being a set constitutes blocks); and modulating said first type pixel blocks of said input image based on said information to produce an output image, said output image including said input image and said information (Please note, column 3, lines 59-64. As indicated this method starts with an up-sampled binary host image, a list of dot locations in a binary image and corresponding binary values for a watermark, this method assigns to these locations the corresponding values of the watermark and tries to improve the image with an error diffusion algorithm at the other end locations. In this regard, Examiner considers this assigning to correspond to Applicant's modulating).

Regarding claim 5, Brunk discloses, wherein diffusing halftone errors of each pixel block of said input image into neighboring pixel blocks of said input image on a pixel block by pixel block basis (Please note, column 5, lines 27-35. As indicated the watermark can be directly embedded into a halftone and the error diffusion process is changed so that the threshold used to calculate the binary output values is modulated by the watermark signal).

Regarding claim 6, Brunk discloses, wherein modulating said first type pixel blocks of said input image includes replacing said first type pixel blocks of said input image with dot shape blocks such that said information is represented by said dot shape blocks (Please note, column 3, lines 59-64. As indicated this method starts with an up-sampled binary host image, a list of dot locations in a binary image and corresponding binary values for a watermark, this method assigns to these locations the

corresponding values of the watermark and tries to improve the image with an error diffusion algorithm at the other end locations. In this regard, Examiner considers this assigning, which in fact does the replacing to correspond to Applicant's modulating).

Regarding claim 8, Brunk discloses, wherein some of said dot shape blocks represents binary data (Please note, column 3, lines 59-61. As indicated this method starts with an up-sampled binary host image, a list of dot locations in a binary image and corresponding binary values for a watermark).

Regarding claim 9, arguments analogous to those presented for claim 1, are applicable.

Regarding claims 13-14, arguments analogous to those presented for claims 5-6, respectively, are applicable.

Regarding claim 16, arguments analogous to those presented for claim 8, are applicable.

Regarding claim 17, arguments analogous to those presented for claims 1 and 5, are applicable.

Regarding claim 21, arguments analogous to those presented for claim 6, are applicable.

### **Claim Rejections - 35 USC § 103**

- The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- Claims 2-4,7,10-12,15 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunk (USPN 6,694,041 B1) in view of Chang (USPN 6,256,398 B1).

Regarding claim 2, Brunk discloses:: detecting first type pixel blocks of an input image, each of said first type pixel blocks including a plurality of pixels, said first type pixel blocks being dependent on pixel values within said first type pixel blocks (Please note, column 3, lines 56-65. As indicated a modified error diffusion method that embeds a watermark comprising a set of binary values at specified dot locations in a binary image, as such, wherein a set of binary values, being indeed more than one and being a set constitutes blocks); and modulating said first type pixel blocks of said input image based on said information to produce an output image, said output image including said input image and said information (Please note, column 3, lines 59-64. As

indicated this method starts with an up-sampled binary host image, a list of dot locations in a binary image and corresponding binary values for a watermark, this method assigns to these locations the corresponding values of the watermark and tries to improve the image with an error diffusion algorithm at the other end locations. In this regard, Examiner considers this assigning to correspond to Applicant's modulating).

However, Brunk, does not specifically disclose, wherein detecting minority pixel blocks of said input image, said minority pixel blocks being pixel blocks that include a majority of pixels that contrast with an image background.

On the other hand, Chang, in the same field of endeavor discloses, wherein detecting minority pixel blocks of said input image, said minority pixel blocks being pixel blocks that include a majority of pixels that contrast with an image background (Please note, column 5, lines 6-7. As indicated the logical value of each cell is represented by the GP (glyph pixel) pixel's contrast with the BP (background pixel). In this regard, Examiner considers this glyph pixel, which contrast with the image background to correspond to Applicant's minority pixels).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to utilize this minority pixels of Chang in Brunk's invention, because as Chang, on column 5, lines 10-12, discloses, such GP, which earlier was considered by the Examiner to correspond to Applicant's minority pixels controls the interpretation of the data, for example, designating the length of the message).



Regarding claim 3, Chang discloses, wherein the minority pixel blocks include a majority of dark pixels (Please note, column 4, lines 14-23).

Regarding claim 4, Chang discloses, wherein the minority pixel blocks include a majority of dark pixels (Please note, column 4, lines 14-23).

Regarding claim 7, Chang discloses, wherein some of the dot shape blocks represents synchronization data (Please note, column 4, line 35).

Regarding claims 10-12, arguments analogous to those presented for claims 2-4, respectively, are applicable.

Regarding claim 15, arguments analogous to those presented for claim 7, are applicable.

Regarding claims 18-20, arguments analogous to those presented for claims 2-4, respectively, are applicable.

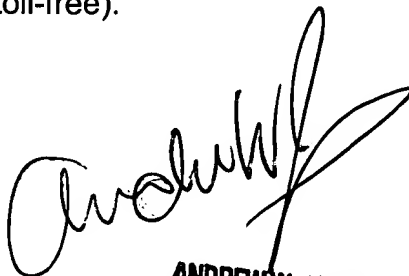
## **Conclusion**

- **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
- A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### Contact Information

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amir Alavi whose telephone number is 571-272-7386.
- The examiner can normally be reached on Mon-Thu.. 8:00 am thru 6:30pm.If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Bhavesh Mehta can be reached on 571-272-7453.
- The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.
- For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AA  
Group Art Unit 2621  
12 April 2005



**ANDREW W. JOHNS**  
**PRIMARY EXAMINER**